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Attorney's Docket No. 33339/242494

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Alain Winninger, et al.	Confirmation No.:	2481
Appl. No.:	10/034,818	Group Art Unit:	3682
Filed:	December 27, 2001	Examiner:	Marcus Charles
For:	STRIATED BELT, ITS MANUFACTURING METHOD AND THE ASSOCIATED DRIVE SYSTEM		

February 11, 2003

Commissioner for Patents
Washington, DC 20231

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RESPONSE

Sir:

In response to the Office Action mailed September 25, 2002, reconsideration by the Examiner and withdrawal of the rejections are respectfully solicited.

Claims 1-3 and 6-12 have been rejected under 35 U.S.C. 103 as being unpatentable over EP 381,281 in view of Richmond U.S. Patent 3,665,069. According to the Examiner, Richmond discloses a belt comprising elastomeric material which is cured and cooled without any belt tensioning in order to increase flexibility, provide optimum quality and maintain structural strength. The Examiner considers that it would have been obvious in view of Richmond to cool and cure the elastomeric matrix of EP 381,281 without belt tensioning.

In Richmond, the compression section 21 is made by injection molding, as described at column 2, lines 18-20. However, the fabric cover 16, tension section 17 and load carrying cord 20 are preformed as a unit 22 according to a conventional technique. In other words, the tensionless step of the process in Richmond concerns only the making of the elastomeric compression layer 21. The remainder of the belt, including the outer section 22 is made by a conventional technique, which entails tension.

According to the present invention as claimed, what is important is that the polyamide 4.6 twisted strands should be wound with very small tension or almost without tension, and that the curing operation of the elastomeric matrix in which the polyamide 4.6 twisted strands are embedded, and a cooling operation thereafter, are carried out without any belt tensioning to avoid submitting the polyamide 4.6 twisted strands to tension during the process.

The advantages as to the properties of the polyamide 4.6 strands have been discussed in detail on page 6, line 33 to page 8, line 35 of the specification. This allows the belt to be a snap-on belt (see page 2, lines 15-19) which was not possible for an automotive belt until the present invention.

Regarding claims 2 and 3, it should be noted that these claims do not claim a test as such, but rather a value of the slope of the stress-elongation diagram of the belt. This is a physical property of the belt. The advantages of the claimed values for the slope of the stress-elongation diagram are shown by the test on page 9, line 11 to page 10, line 25. The prior art cited by the Examiner would not lead a person of ordinary skill in the art to produce a belt having a supporting structure that would achieve the values set forth in claims 2 and 3.

The advantages of the belt of the present invention are also shown in relation to the filtering of high order harmonic components of a diesel engine at idle speed. See page 10, line 26 to page 12, line 5 in relation to Figures 4a and 4b.

As to claim 6, this refers to the stable tension that is defined on page 10, lines 3-15. It is a tension that remains stable after a few hours of operation of the belt, and it is an important parameter for the belt since it corresponds to its actual use. In the example of page 10 (line 13), the value is 6 daN per tooth and per strand. Since a tooth is 3.56 mm wide, this corresponds to a tension of 17 daN/width centimeter/strand, well within the claimed range of 14 to 20 daN/width centimeter/strand.

As to the other claims, there seems to be a misunderstanding in the Examiner's mind as to the way the belt is manufactured. Namely, the spacing of the twisted strands and the diameter thereof have no influence on the nominal tension when winding the twisted strands. The important thing is that the twisted strands should be wound at very small tension or almost without any tension. See more particularly page 7, line 33 to page 8, line 7.

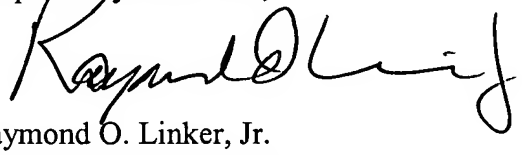
To clarify, the supporting structure of the belt of the present invention is manufactured by helical winding. As described at page 6, lines 13-19, yarns of resin are prepared into twisted strands which constitute a supporting structure 20. These strands 20 are helically wound. This part of the process is conventional for making belts. According to the present invention, what is novel and unique is that these strands 20 are wound at a tension that is very small or almost null, with the twisted strands being made of polyamide 4.6.

This fundamental concept of the present invention is neither taught nor suggested by the prior art of record. Accordingly, reconsideration by the Examiner and withdrawal of the rejection are requested.

Claims 4 and 5 have been rejected under 35 U.S.C. 112, first paragraph. Reconsideration by the Examiner and withdrawal of this rejection are requested. An automotive power transmission belt is always designed for a specific drive system having technical specifications, among which is the nominal length of the drive system. Thus, claims 4 and 5 define the belt in terms of its length in relation to the nominal length of the drive system for which the belt is designed. It is believed that persons of ordinary skill in the art understand this, and would therefore be enabled by Applicants' specification. It is noted that corresponding claims in parent U.S. Patent 6,033,331 (see claims 3 and 4) were not objected to and were found acceptable.

In view of the foregoing Applicants request favorable reconsideration by the Examiner.

Respectfully submitted,



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